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EXAMINER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Status of Claims***

Claims 10, 12-18 and 21-34 remain for examination. Claims 23-34 are newly added. Claims 10, 12-13, 15, 18 and 21-22 are amended. Claims 1-9, 11, 19 and 20 are cancelled.

### ***Previous Grounds of Rejection***

In the light of the amendment, the objection with respect to claim 13-18 and 21-22 has been withdrawn.

Regarding claims 10 and 12, the rejection under 35 U.S.C. 102(b) as being anticipated by Kinney et al. (US 4,839,049) stands.

The rejection below with respect to claims 10 and 12 substantially the same as generally set in the office action mailed on March 24, 2009, but also includes newly added claims 13-18 and 21-34.

### ***New Grounds of Rejection***

#### **Claim Objection**

Regarding claim 13, the phrase of "any of" should be deleted.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 10, 12-17, 21, 23-24, 26, 28-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Kinney et al. (US 4,839,049).

Regarding claims 10 and 28-31, Kinney et al. teaches a fine ceramic foam filter (pore size 30 ppi, porosity upto 95%, the about 5% of the theoretical density, compressive strength 71-315 psi) as per applicant claim 10 (abstract, col.6 line 67-col.7, line 34, and Examples II-V).

Product-by-process limitation in this claim 10 and 28-31 are noted. It is considered while the product (filter) of the reference is made by a different process, the product made and disclosed is the same as being claimed. see "[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." (In re Thorpe, 227 USPQ 964,966). Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product (In re Marosi, 710 F.2d 798, 802,218 USPQ 289, 292 (Fed. Cir. 1983), MPEP 2113).

Regarding claims 28-31, even though prior art does not teach the use of claimed surfactant, it would not be a patentable difference, as the process limitations of the

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instant claims are not considered to provide any structure definition over the prior art.

During firing, the surfactant vaporizes leaving a sintered of fused ceramic media.

Regarding claims 12-14, 23 and 32-33, Kinney et al. teaches ceramic foam filter having about 5% of theoretical density with 93.6% porosity and a compressive strength 315 psi (col.7, lines 24-26 and Example V).

Regarding claims 15-17 and 24, as discussed above, the filter taught by Kinney et al. has a compressive strength 315 psi (Example V).

Regarding claims 21 and 26, the Examiner realizes that not all physical properties, such as a pressure drop and air flow velocity, are stated in these references. Since the reference taught by Kenney et al. teaches all of the claimed reagents and composition, the physical properties of composition would necessarily follow as set forth in MPEP 2112.01(II).<sup>1</sup>

Regarding claim 34, the filter taught by Kinney et al. comprises alumina as the recited claim (Claim 1).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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<sup>1</sup> "Products of identical chemical composition can not have mutually exclusive properties." A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present. In re Spada, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 18, 22, 25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kinney et al. (US 4,839,049) in view of Pryor et al. (US 3,893,917).

Regarding claims 18 and 25, Kinney et al. teaches a fine ceramic foam filter (pore size 30 ppi, porosity upto 95% so that the density about 5% of the theoretical density, compressive strength 315 psi) as per applicant claims 10 and 12 (abstract, col.6 line 67-col.7, line 34, and Examples II-V). However, Kinney et al. does not specifically teach the filter having a density of at least 12% as per applicant claims 18 and 25.

Pryor et al. teaches a molten metal filter having a density of less than 30% of the theoretical density for a ceramic material of the same size. The references differ from Applicant's recitations of claims by not disclosing identical ranges. However, the reference discloses "overlapping" ranges, and overlapping ranges have been held to establish prima facie obviousness (MPEP 2144.05).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Kenney et al. and Pryor et al. to obtain the invention as specified in the claim 18, motivated by the fact that the excess heads of molten metal are not required in order to start the filtration process (col. 4, lines 30-34).

Regarding claims 22 and 27, although neither Kinney et al. nor Pryor et al. specifically discloses the size of the filter as per applicant claim 22, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make any size of a filter suitable for its intended use as set forth in MPEP 2144.04 IV.<sup>2</sup>

### ***Response to Arguments***

#### ***With regards to the previous Grounds of Rejection***

Applicant's arguments filed 6/24/2009, with respect to claims 10 and 12, are acknowledged.

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<sup>2</sup> "In re Rinehart, 531 F.2d 1048, 189 USPQ 143 (CCPA 1976) ("mere scaling up of a prior art process capable of being scaled up, if such were the case, would not establish patentability in a claim to an old process so scaled." 531 F.2d at 1053, 189 USPQ at 148.).

Regarding applicant's arguments against the filter taught by Kinney is not the same to the instant claimed application (Remarks, pages 8-9), are not found persuasive.

As the filter taught by Kinney et al. has the pore size of 30 ppi (instant claim 1, <60 ppi), the density about 5% of the theoretical density (instant claim 1, <10%), compressive strength 71-315 psi (instant claim 1, at least 20 psi), which meets the claimed limitations, therefore the filter of Kinney et al. is the same as the present application.

The rejection stands.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUN QIAN whose telephone number is (571)270-5834. The examiner can normally be reached on Monday-Thursday, 10:00am -4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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